

This listing of claims will replace all prior versions,  
and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1. (currently amended): An optical system including a cavity which comprises a semiconductor light-emitting device, and an optical fiber having a first terminal optically coupled to said semiconductor light-emitting device, said cavity having a cavity length defined between a first facet of said semiconductor light-emitting device and a second terminal of said optical fiber, wherein,

a length of said optical fiber is such that a mode-locking oscillation frequency is not more than 1GHz,

wherein said optical system comprises a single module, provided that said semiconductor light-emitting device and said optical fiber are accommodated in a single case having a size smaller than said length of said optical fiber, and

said single case further accommodates a temperature controller for controlling a temperature in said single case.

Claim 2. (canceled).

Claim 3. (canceled).

Claim 4. (canceled).

Claim 5. (currently amended): ~~The optical system as claimed in claim 4,~~ An optical system including a cavity which comprises a semiconductor light-emitting device, and an optical fiber having a first terminal optically coupled to said semiconductor light-emitting device, said cavity having a cavity length defined between a first facet of said semiconductor light-emitting device and a second terminal of said optical fiber, wherein,

a length of said optical fiber is such that a mode-locking oscillation frequency is not more than 1GHz,

said optical system comprises separate first and second modules which are connectable to each other through at least one connector, provided that said semiconductor light-emitting device is accommodated in said first case and said optical fiber is accommodated in said second case having a size smaller than said length of said optical fiber, and

wherein each of said first and second cases further accommodates a temperature controller for controlling a temperature in each of said first and second cases.

Claim 6. (currently amended): An optical system including a ring-cavity which comprises a semiconductor light-emitting device, and a looped optical fiber having first and second terminals optically coupled to said semiconductor light-

emitting device, said ring-cavity having a cavity length defined by a length of said looped optical fiber and an optical path length between said first and second terminals, wherein,

a length of said looped optical fiber is such that a mode-locking oscillation frequency is not more than 1GHz,

said optical system comprises a single module, provided that said semiconductor light-emitting device and said optical fiber are accommodated in a single case having a size smaller than said length of said looped optical fiber,

said single case further accommodates a temperature controller for controlling a temperature in said single case.

Claim 7. (Canceled).

Claim 8. (Canceled).

Claim 9. (Canceled).

Claim 10. (currently amended): ~~The optical system as claimed in claim 9, wherein~~ An optical system including a ring-cavity which comprises a semiconductor light-emitting device, and a looped optical fiber having first and second terminals optically coupled to said semiconductor light-emitting device, said ring-cavity having a cavity length defined by a length of said looped optical fiber and an optical path length between said first and second terminals, wherein,

a length of said looped optical fiber is such that a mode-locking oscillation frequency is not more than 1GHz,

said optical system comprises separate first and second modules which are connectable to each other through at least one connector, provided that said semiconductor light-emitting device is accommodated in said first case and said looped optical fiber is accommodated in said second case having a size smaller than said length of said looped optical fiber, and

each of said first and second cases further accommodates a temperature controller for controlling a temperature in each of said first and second cases.

Claim 11. (previously presented): The optical system of claim 1, wherein the said cavity length is adjustable by an optical path length adjuster.

Claim 12. (previously presented): The optical system of claim 11, wherein the optical path length adjuster is a set of paired wedge prisms.

Claim 13. (previously presented): The optical system of claim 11, wherein the optical path length adjuster is a set of right-angled isosceles triangle prisms.

Claim 14. (currently amended): A mode locking semiconductor laser system, comprising:

a semiconductor laser device with a reflective facet;  
and

a polarization-preserving optical fiber with a non-reflective terminal at a fixed end and a reflective terminal at a free end,

the polarization-preserving optical fiber optically coupled to the semiconductor laser device,

~~wherein~~ a cavity length is defined between the reflective facet of the semiconductor laser device and the reflective terminal of the polarization-preserving optical fiber,  
and

the free end of the optical fiber is free of connection to any element[.];

a first collimator lens;

a wavelength splitter;

an optical path length adjuster; and

a condenser lens,

the semiconductor laser device with a reflective facet,  
the first collimator lens, the wavelength splitter, the optical  
path length adjuster, and the condenser lens aligned on an  
optical axis,

the first collimator lens disposed between the semiconductor laser device and the wavelength splitter,

the wavelength splitter disposed between the first collimator lens and the optical path length adjuster,

the condenser lens disposed between the optical path length adjuster and the non-reflective terminal of the polarization-preserving optical fiber, and

the polarization-preserving optical fiber optically coupled to the semiconductor laser device through the first collimator lens, the wavelength splitter, the optical path length adjuster and the condenser lens.

Claim 15. (canceled).

Claim 16. (canceled).

Claim 17. (currently amended): The system of claim [[15]] 14, wherein the optical path length adjuster is a set of paired wedge prisms.

Claim 18. (currently amended): The system of claim [[15]] 14, wherein the optical path length adjuster is a set of right-angled isosceles triangle prisms.

Claim 19. (previously presented): The system of claim 14, further comprising a second collimator lens arranged to allow

an optical output emitted from the reflective facet to be transmitted through the second collimator lens.

Claim 20. (previously presented): The system of claim 14, wherein a length of the optical fiber is such that a mode-locking oscillation frequency is not more than 1GHz.